

**REMARKS**

**INTRODUCTION:**

In accordance with the foregoing, claim 47 has been cancelled without prejudice or disclaimer, claims 48-58 have been added, and claims 19-21, 29, 30, 32-35, 38, 42, 42, 43, 45, and 46 have been amended. No new matter is being presented, and approval and entry of the foregoing amendments and new claims are respectfully requested.

Claims 19-26, 28-46, and 48-58 are pending and under consideration. Reconsideration is requested.

**REJECTION UNDER 35 U.S.C. §102:**

In the Office Action at pages 2-4, the Examiner rejects claims 19, 35, and 36 under 35 U.S.C. §102 in view of Hara (U.S. Patent No. 6,044,055). This rejection is respectfully traversed and reconsideration is requested.

By way of review, Hara discloses a recording apparatus which adjusts a waveform of modulated data, which is being recorded using a modified constant angular velocity (MCAV) recording method, according to whether the data is to be recorded in a high speed or a low speed zone. Specifically, Hara discloses detecting in which of 50 zones the data is to be recorded, and determining delays x and y for each pulse of the modulated data according to the location of the detected zone. In this way, the linear densities are controlled to be identical in inner and outer zones. Further, the pulse widths are varied as shown in FIGs. 6C, 6D, and 12J, and are thus changed according to the delays x, y. (Col. 5, lines 12-34, col. 10, lines 39-53, col. 11, lines 1-7). However, while the pulse widths are being varied according to the delays x, y, since the delays x, y vary according to the recording position, there is no suggestion that the pulse widths and/or the delays x, y are varied according to a detected magnitudes of marks and spaces of the original data waveform shown in FIGs. 6B and 12B.

Additionally and as noted in the interview, Hara teaches the use of delays x, y which are used to generate the delayed pulses and the size of elements of the waveform. However, Hara does not suggest using data instead of or in addition to the delays x, y specifying the width of the pulses in the resulting waveform, or that such data is included in a table or is otherwise stored as opposed to calculated. Further, there is no suggestion that the RAM 15 necessarily stores a table of such magnitudes for use in varying the pulse widths such that there is insufficient evidence that the RAM 15 provides such a functionality under principles of inherency.

Additionally, even assuming *arguendo* that the magnitudes are stored, it is respectfully submitted that Hara does not suggest that the varied pulse is according to the mark and only one of the spaces.

In contrast, claim 19 recites, among other features, "a generator to control generation of a write pulse waveform determined in accordance with one or more grouping tables and the discriminated magnitudes of the present mark and the leading space, the one or more grouping tables storing width data of first and/or last pulses for the write pulse waveform to be generated varying according to the different stored magnitudes of the present mark of the input data and the leading spaces such that the generated write pulse waveform is generated without regard for a trailing space of the present mark." As such, it is respectfully submitted that Hara does not disclose or suggest the invention of claim 19.

For at least similar reasons to why Hara does not disclose or suggest claims 21 and 38, it is respectfully submitted that Hara does not disclose or suggest "a generator to generate an adaptive write pulse using one or more grouping tables, the one or more grouping tables storing width data of widths of corresponding first and/or last pulses of a write pulse waveform varying according to corresponding stored magnitudes of a present mark of input data and stored magnitudes of a corresponding space adjacent the present mark by grouping the magnitudes of the present mark and the adjacent space into corresponding pulse groups grouped according to magnitudes" as recited in claim 35.

Claim 36 is deemed patentable due at least to its depending from claim 35.

**REJECTION UNDER 35 U.S.C. §103:**

In the Office Action at pages 4-16, the Examiner rejects claims 20, 25, 26, 28, 31-34, and 43-47 under 35 U.S.C. §103 in view of Hara and Furukawa et al. (U.S. Patent No. 6,345,026). The rejection is respectfully traversed and reconsideration is requested.

As an initial point of clarification, claim 47 has been cancelled without prejudice or disclaimer. As such, it is respectfully submitted that the reject is deemed moot.

The Examiner asserts that Hara teaches generating a write pulse based upon width data, which the Examiner asserts is disclosed by the delays x, y of Hara. As a point of clarification, Hara teaches that the delays x, y are selected according to zone position so as to achieve a constant linear density in high and low velocity zones. (Col. 5, lines 47-55 of Hara). There is no suggestion that the delays x, y are selected according to magnitudes of marks and spaces.

Also, while Hara teaches the use of delays x, y which are used to generate the recording pulses as shown in FIG. 12J, there is no suggestion that the actual widths should be stored or

are necessarily stored instead of or in addition to the delays x, y, or that there would be an advantage in so doing. Similarly, even assuming *arguendo* that Tables 1 and 2 of Furukawa et al. shows the use of delay times d1, d2 varying according to magnitudes of the front/back space lengths and recording mark lengths, Furukawa et al. also does not suggest including width data of the pulses in addition to the delay times d1, d2 of Tables 1 and 2 or that the back space is not used to adjust a pulse width.

As such, it is respectfully submitted that the combination does not disclose or suggest "the one or more grouping tables storing width data of first and/or last pulses for the write pulse waveform to be generated varying according to the different stored magnitudes of the present mark of the input data and the leading spaces such that the generated write pulse waveform is generated without regard for a trailing space of the present mark" and "a write waveform controller to generate pulse width data to vary a width of the first and last pulses of the write pulse in accordance with the magnitude of the leading space and the magnitude of the present mark" as recited in claim 20.

For at least similar reasons, it is respectfully submitted that the combination does not disclose or suggest the invention recited in claims 28, 31 and 33.

Additionally, for at least reasons similar to why the combination does not disclose or suggest the invention of claims 21 and 38, it is respectfully submitted that the combination does not disclose or suggest, among other features "a generator to generate an adaptive write pulse, by varying a rising edge of a first pulse of the write pulse and a second pulse of the write pulse in accordance with a magnitude of a space adjacent a present mark and a magnitude of the present mark, based on at least one table storing width data of the first and/or second pulses in a grouping format in which the magnitudes of the present mark and the adjacent space are grouped into corresponding pulse groups grouped according to magnitudes" as recited in claim 32.

For at least similar reasons, it is respectfully submitted that the combination does not disclose or suggest the invention as recited in claim 34.

Claims 25 and 26 are deemed patentable due at least to their depending from claim 20.

In the Office Action at pages 16-17, the Examiner rejects claim 37 under 35 U.S.C. §103 in view of Hara and Nishiuchi et al. (U.S. Patent No. 5,568,461). The rejection is respectfully traversed and reconsideration is requested.

Since the Examiner does not rely upon Nishiuchi et al. as curing the above noted defect of Hara as applied to claim 35, from which claim 37 depends, it is respectfully submitted that the combination does not disclose or suggest the invention as recited in claim 37.

**STATUS OF CLAIMS NOT REJECTED:**

On page 17 of the Office Action, the Examiner objects to claims 21-24, 29, 30, and 38-42 for depending from rejected claims. Since these claims no longer depend from rejected claims, it is respectfully submitted that the Examiner reconsider and withdraw the objection.

**PATENTABILITY OF NEW CLAIMS:**

Claims 48 is deemed patentable for at least reasons similar to why claims 21 and 38 are deemed patentable. Claims 49-58 are deemed patentable due at least to their depending from corresponding claims 21, 32, 34, 35, 38, 48, 51, and 53.

**CONCLUSION:**

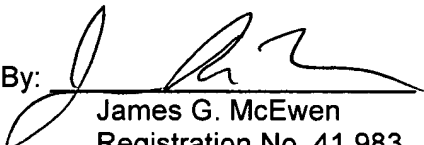
In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, it is respectfully submitted that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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